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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/554,288	01/09/2001	Hans Wilhelm Hafner	KKFI40.001AP	3625
20995	7590	10/01/2004	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614			SHAPIRO, JEFFERY A	
			ART UNIT	PAPER NUMBER
			3653	

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/554,288	HAFNER, HANS WILHELM
	Examiner	Art Unit
	Jeffrey A. Shapiro	3653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 18 June 2004.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 10 and 19-22 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 10 and 19-22 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____.  | 6) <input type="checkbox"/> Other: _____.                                   |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/5/03 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 10 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seidl et al (US 4,244,705) in view of Williams, Jr. et al (US 4,922,932) and further in view of Koki et al (JP 09197028A). Seidl discloses the following.

A set of rotary-vane feeders (referred to as rotary gas locks (36-38 and 61-63)) in series relations ship with intermediate containers (11, 21, and 24) or the ducts (39, 41, 42) or ducts (67 and 68). Note that any of these can be construed as intermediate containers. This system is used for a coal furnace.

Seidl does not disclose, but Williams discloses the following.

As described in Claims 10 and 19;

- a. setting a feed rate for the rotary vane feeder (16);
- b. adjusting a discharge rate of the metering device to a value that is lower than the feed rate of the preceding rotary vane feeder, so that return feed from the rotary-vane feeder to the source container takes place (see col. 4, lines 50-67 and col. 5, lines 1-67 and col. 6, lines 1-52, noting that the rate of input into feeder duct (14) by conveyor (12) must be at a faster rate than the rotation speed of rotary vane feeder (16), in order to maintain a particular sensed height of the material in the feed duct (14);
- c. *wherein said controlling takes into account a filling state of an intermediate container between the rotary-vane feeder and the metering device so as to maintain the intermediate container at a substantially constant filling height and wherein the metering device comprises a rotor scale;* (See col. 5, lines 17-41, noting that controller (68) controls the speed of rotation of rotary conveyor (16) based on the height sensed by sensor (64), as shown in figure 1. Note that it appears in col. 5, line 37 that the sensor is mislabeled as (654). Also note that in col. 5, line 39, rotary conveyor appears to be mislabeled as (14), which should be (16), as shown in figure 1.
- d. *altering a speed of rotation of the metering device to regulate discharge of the metering device;* (See again, col. 5, lines 34-41.)

Note also that it is well-known in the art to use a rotary scale for sensing rotation speed of a shaft. See, for example, Japanese patent (JP 09197028A), Koki et al, which describes such a rotor scale. If such a rotary scale device was not used on the rotary vane feeders of Williams, the system of Williams would not be able to control the speed of the rotary vane feeder, as described in Williams' disclosure.)

As described in Claim 20;

- e. said controlling takes into account a filling state of an intermediate container between the rotary-vane feeder and the metering device; (Note again, that the height of material in the feeder duct (14) is sensed.)

As described in Claim 21;

- f. altering a speed of rotation of the metering device to regulate discharge of the metering device (again, see col. 5, lines 34-41);

As described in Claim 22;

- g. using a pneumatic feed, and altering at least one of an air amount and an air speed to regulate discharge of the metering device; (Note fluid inlet (99) of Williams which removes gas from the hopper (18). Note also that it is not clear whether a pneumatic feed is going into or out of the metering device, and that even if the fluid inlet of Williams is considered a vacuum, it is still pneumatic and moves air at a particular speed.

Note also that Seidl discloses varying air speeds at  $P_B$ , for example. See figure 1 of Seidl.

Seidl, Williams and Koki are considered to be analogous art because they both concern transport of particulate matter. Note also, Williams, col. 4, lines 14-16, which states that Williams' system usable with "particulate material other than tobacco."

At the time of the invention, it would have been obvious to one of ordinary skill in the art to have used the control scheme of Williams in the coal furnace feeding system of Seidl et al, for example, so that the height, and therefore the volume of any one or all of the intermediate chambers of Seidl (11, 21, and 24), the ducts (39, 41, 42) or ducts (67 and 68) can be maintained at a particular level by maintaining a rotational speed of the subsequent rotary vane feeder.

The suggestion/motivation would have been to, for example, maintain a particular volume of coal in the furnace kiln (11) of Seidl, or to maintain an even flow of materials throughout the system of Seidl by keeping a certain level and volume of material in the intermediate areas between rotary conveyors of Williams' system. See col. 4, lines 50-53 of Williams. Note also lines 53-55 of Williams, which mentions the use of the plug (42) in the duct (14) as a vapor barrier. Such a use might also be considered useful in a coal fired system such as Williams because backflow of gasses can cause explosions.

Therefore, it would have been obvious to combine Seidl, Williams and Koki in order to obtain the invention as described in Claims 10 and 19-22.

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanaoki et al (US 4,850,703). Hanaoki discloses the following.

A set of rotary-vane feeders (13 and 16) in series relations ship with intermediate containers (A, A', B , B') or the ducts (6, 21,22). Note that any of these can be construed as intermediate containers.

Hanaoki further discloses the following.

As described in Claims 10 and 19;

- a. setting a feed rate for the rotary vane feeder (13 or 16);

(See figure 6 and col. 4, lines 42-57, noting that the timing of the release of material from any of the containers (A-B) are regulated by controlling the federates of the respective rotary vane feeders.)

- b. adjusting a discharge rate of the metering device to a value that is lower than the feed rate of the preceding rotary vane feeder, so that return feed from the rotary-vane feeder to the source container takes place;

(Note that the timing of the federates will be such that a particular federate of a particular rotary vane feeder will be less than the preceding rotary vane feeder.)

- c. *wherein said controlling takes into account a filling state of an intermediate container between the rotary-vane feeder and the metering*

*device so as to maintain the intermediate container at a substantially constant filling height and wherein the metering device comprises a rotor scale;*

(Based upon Applicants specification and drawings, particularly, intermediate container (5), which is duct-like, Hanaoki's ducts (6, 21 and 23) can be construed as intermediate ducts.)

d. *altering a speed of rotation of the metering device to regulate discharge of the metering device;* (Note again, that regulating the time of the rotation of the rotary valves will either reduce or increase the material flow rate—see col. 7, lines 45-60.)

Hanaoki is considered to be analogous art because it concerns transport of particulate matter.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to have used the control scheme of Hanaoki to maintain the volume of any one or all of the intermediate chambers of (A, A', B , B') or the ducts (6, 21,22) at a particular level by maintaining a rotational speed of the subsequent rotary vane feeder.

The suggestion/motivation would have been to mix several materials together accurately.

See col. 1, lines 53-61 and col. 2, lines 1-16 of Hanaoki.

Therefore, it would have been obvious to use Hanaoki in order to obtain the invention as described in Claim 10.

***Response to Arguments***

5. Applicant's arguments filed 6/18/04 have been fully considered but they are not persuasive. Applicant's system appears to be found in the combination of Williams and Seidl. As discussed above, Williams' system of controlling a rotary vane feeder to maintain the height and volume in an intermediary container is taught by Williams, with ample motivation to use such a control scheme in the system of Seidl so as to maintain a particular height and volume of material in, for example, the kiln (11) or the cooler (24) or any of the other intermediary ducts between the rotary vane feeders. Therefore, Claims 10 and 19-22 are rejected.

Note also that it would have been obvious to use a scale or checkweigher in Seidl in order to weigh the material as it is being moved through the rotary vane feeder.

Note also that Applicant's contention that the receiving hopper (18) of Williams has no control function does not appear to be pertinent. Note again Applicant's figures 1 and 2, where intermediate containers, which appear to be ducts, are illustrated. Applicant's "intermediate containers" appear to have no control function as well. The controller (10) of each of the embodiments of figures 1 and 2 appear to be connected to the motor of one or both rotary valve motors. Williams also has such a motor connected to a controller (68). See Williams col. 5, lines 17-41. Additionally, note that newly cited reference Hanaoki also provides such a control system. See Hanaoki, col. 7, lines 45-60.

Therefore, the rejection is maintained.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mitsukawa '704, Philips '324, Tomlinson '482, Reuff '721, Ward '336, and Ricciardi '102 are cited as examples of weighing devices with rotary valves.

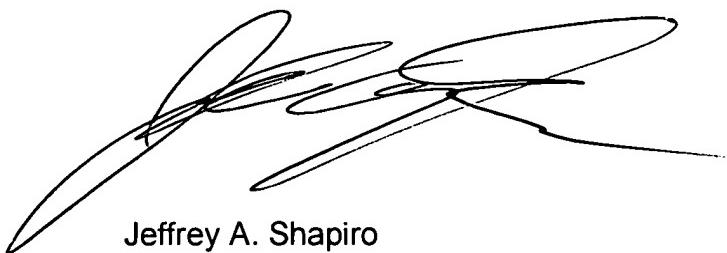
7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey A. Shapiro whose telephone number is (703)308-3423. The examiner can normally be reached on Monday-Friday, 9:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald P. Walsh can be reached on (703)306-4173. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jeffrey A. Shapiro  
Examiner  
Art Unit 3653

September 26, 2004



DONALD P. WALSH  
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